

Our Reference: DFS-146-A PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Rainer Mangold et al.
Serial Number: 10/089,561
Filing Date: 05/28/2002
Examiner/Art Group Unit: Pierce/1771
Title: Composite Material for Producing a Layer of
Hygiene Article that Comes into Physical Contact
with the Body and a Corresponding Hygienic
Article

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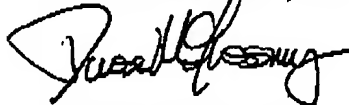
Transmitted with this document is Appellant's Reply in Response to the Examiner's Answer
Filed June 6, 2005 in the above-identified application.

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Respectfully submitted,

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Our Reference: DFS-146-A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/089,561
Filing Date: May 28, 2002
Appellant(s): MANGOLD ET AL

Denise M. Glassmeyer
For Appellant

**APPELLANT'S REPLY IN RESPONSE TO THE
EXAMINER'S ANSWER FILED JUNE 6, 2005**

This is in response to the Examiner's Answer mailed June 6, 2005.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) **Status of Claims**

The statement of the status of the claims is contained in the brief.

(4) **Status of Amendments**

The appellant's statement of the status of amendments after final rejection is contained in the brief.

(5) **Summary of the Claimed Subject Matter**

The summary of invention is contained in the brief.

(6) **Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the issues is contained in the brief.

(7) **Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) **Prior art of Record**

U.S. 4,883,707	Newkirk	11-1989
U.S. 5,989,688	Barge et al.	11-1999
U.S. 5,057,357	Winebarger	10-1991
U.S. H1698	Lloyd et al.	11.1997
DE 4,388,326	Hermann	11-1993

(9) **Grounds of Rejection /**

The grounds of rejection are initially presented in the brief and are set forth in detail in pages 3 through 11 of the Examiner's Reply.

(10) **Response To Argument**

The Appellant's invention as set forth in independent claim 1 is directed to a composite material for producing a layer of a disposable, absorbent, hygiene article that comes into contact with the body. This composite material is made of at least two nonwoven material layers joined by thermal processing. These two nonwoven material layers are an upper layer and a lower layer. The upper layer is formed of *a mixture of monocomponent fibers and bicomponent fibers*. The percentage of bicomponent fibers amounts to *30 to 70 percent by weight of the upper layer*. The denier of the fibers of the upper layer is at most 3.5 dtx.

The lower layer includes at least 40 percent by weight of bicomponent fibers whose higher melting component is made of PET, *and whose lower melting component of the bicomponent fibers of the lower layer has a lower melting point than that of the monocomponent fibers of the upper layer.* Furthermore, the denier of the *bicomponent fibers* of the lower layer is between 4 and 10 dtx.

The Appellants' invention as set forth in independent claim 15 is directed to an absorbent hygienic article with a fluid-type layer that is not in physical contact with the body during use, a retaining element, and a fluid-permeable layer furnished on the side of the retaining element in physical contact with the body in which the retaining element comprises a composite material as defined in claim 1.

Independent claim 16 is directed to an absorbent, hygienic, article having a fluid-tight layer not in physical contact with the body during use. A retaining element and a fluid-permeable layer provided on the side of the retaining element in physical contact with the body. The retaining element comprises one layer of intralinked cellulose fibers with a fluid-retention value that is derived from the quotients of the mass (g_F) of the fluid absorbed and the dry mass (g_F fiber) of the cellulose fibers is between 0.6 and 0.9 g_F/g_F fiber. The layer of intralinked cellulose fibers contains 8 to 15 percent by weight of superabsorbent polymer materials. The fluid permeable layer provided on the side of the retaining element in physical contact with the body is at least double-layered. An upper of the double layers consists of fibers with a denier of at most 3.5 dtx. A lower of the double layers comprises bicomponent fibers with a denier between 4 and 10 dtx. The higher melting point component of the bicomponent fibers is made of PET.

Currently, claims 1, 4, 5, 7-10, and 12-15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Newkirk. In his response, the Examiner takes exception with the Appellants' argument that Newkirk does not teach or suggest the present invention and that the Newkirk reference specifically teaches that the addition of greater than 25 to 30 percent matrix fibers may reduce the strength of the composite to a level of concern for use as a traditional top sheet. The Examiner indicates that there is no recitation in claim 1 that there be 30 percent or greater monocomponent fibers in the upper layer and that claim 1 only requires that the

bicomponent fibers be present in an amount between 30 and 70 percent. The Examiner contends that claim 1 does not provide any minimum amount of monocomponent fibers.

The Newkirk reference states:

Neither the high denier lofty layer nor the low denier soft layer need be composed entirely of the bicomponent fibers. The desired balance of loft, softness, and strength determines the upper percent by weight of single component matrix fiber that can be added. Both loft and softness increase and strength decreases as matrix (single component) fiber is added. *Addition of greater than 25-30 percent matrix fiber may reduce the strength to a level of concern for use as a traditional topsheet.* (Newkirk, col. 3, lines 43-52, emphasis added.)

If matrix fiber is added to the low denier layer, the layer will contain less than 100 percent bicomponent fibers. The Newkirk reference states that while some non-bicomponent content is acceptable, addition of greater than 25 to 30 percent non-bicomponent matrix fibers is deleterious. Thus the amount of bicomponent fiber in the soft layer cannot be less than about 70 to 75 percent as taught by Newkirk.

In contrast, as the Examiner correctly observes, the Appellants' invention set forth in claims 1, 4, 5, 7-10, and 12-15 is directed to a composite sheet in which the upper layer requires that the bicomponent fibers be present in an amount between 30 to 70 percent. The Examiner's concerns about whether the claim language is open or closed is misdirected, as the Newkirk reference teaches a composite having an upper layer with greater amounts of bicomponent material than that in the present invention.

With regard to the Examiner's contention that Newkirk anticipates a claim of at least 30 percent monocomponent fibers, it should be noted that the Newkirk reference teaches that addition of an amount greater than 25 to 30 percent matrix fiber to a bicomponent is deleterious to the resulting composite. It is respectfully submitted that, in view of such teaching, the Newkirk reference fails to teach or suggest the composite set forth in claim 1 in which the upper layer contains 30 to 70 percent bicomponent fibers with a denier of 3.5 dtx or less.

In addition to failing to teach or suggest an upper layer formed of a mixture of monocomponent fibers and bicomponent fibers with the percentage of bicomponent fibers amounting to 30 to 70 percent by weight of the upper layer and the denier of the fibers in the upper layer being at most 3.5 dtx, the Newkirk reference fails to teach or suggest a lower layer

composed of at least 40 percent by weight bicomponent fibers having a higher melting component made of PET, and a *lower melting component having a lower melting point than monocomponent fibers contained in the upper layer*. The Newkirk reference fails to teach or suggest this melting point differential.

In view of the analysis contained in the Brief and in this Response, it can be readily seen that the Newkirk reference fails to teach or enable each of the claimed elements.

Simply stated, a prior publication or patent description will be considered as anticipatory when its disclosure is at once specific and enabling with regard to the particular subject matter at issue. In effect, a *prima facie* case is made out whenever a reference is shown to contain a disclosure which is specific as to every critical element of the appealed claims. . . [I]f it does not place the subject matter in the claims within the possession of the public. . . it does not anticipate the claimed subject matter. In re Wilder, 57 C.C.P.A. 1314, 1319 (1920).

In addition to the analysis contained in the Brief, the Newkirk reference fails to teach or suggest the bicomponent levels present in the upper layer of the claimed composite material and the melt point differential of the bicomponent fibers in the lower layer. Additionally, it should be noted that the composite material of the present invention as set forth in claim 1 specifies that the denier of the "*bicomponent fibers*" is between 4 and 10 dtx. The Newkirk reference fails to teach or suggest a composite material having the lower layer with a melting point component differential as defined in claim 1 and a lower layer made up of at least 40 percent bicomponent fibers in which the bicomponent fibers specifically have a denier between 4 and 10 dtx. In contrast, the Newkirk reference specifies that all material in one of the two layers has an average denier of 3 or greater.

The Examiner's observations with regard to the Newkirk reference contained on pages 11-15 of the Answer are noted. These are deemed unpersuasive in view of careful reading of the construction of claim 1. The Appellants' invention as set forth in claims such as 1, 4, 5, 7-10, and 12-15 is directed to a composite sheet made of at least two nonwoven layers joined together by thermal processing. Without being bound to any theory, it is believed that the use of bicomponent fibers having a lower melting point component with a value lower than the melting point of monocomponent fibers in the upper layer provides a composite with bond characteristics not taught or suggested in Newkirk.

The Examiner's observations regarding the Barge reference on pages 15-19 of the Answer are noted. Claims 1, 4-10, and 12-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Barge. The Barge reference is also used to support a rejection of claims 2 and 3 under 35 U.S.C. § 103(a) in view of Weinbarger; claims 6 as being unpatentable over Newkirk in view of Barge; claim 11 as being unpatentable over Barge in view of Lloyd.

The Examiner's observations regarding the Barge reference are contained in the Answer at pages 16-19. The Examiner's observations are noted but deemed unpersuasive. It should be noted that the Examiner indicates that the broad range of 30 to 70 percent bicomponent fibers with a denier of 3.5 dtx or less in the upper layer is not considered indicative of criticality or careful selection. The Examiner opines that a person of ordinary skill knows that the addition of more bicomponent fibers would strengthen the bonding of the fabric at the expense of loss of good feel provided by monocomponent fibers and increased stiffness. The Examiner contends that adjusting the amount of bicomponent fiber in a layer would be optimization of a result effective variable and therefore an obvious modification.

The Barge reference is essentially silent regarding the percentage composition of the upper layer. The Barge reference simply says that the support layer can be a mixture of single component fibers and bicomponent fibers. The percentage of bicomponent fibers in the support layer is not taught. The Examiner has asserted without support that the amount of bicomponent fibers would be obvious to one skilled in the art as a matter of optimizing a result effect variable. The Appellant disagrees. The Barge reference provides no starting point from which to optimize as the Barge reference teaches bicomponent percentages in bulky or lower layer(s), but lacks any teaching that would suggest percentages for upper or support layers. The Examiner has failed to provide a reference that demonstrates the knowledge of the skilled artisan relying instead on simple unsupported conclusion.

The Appellant contends that in applying the Barge reference, the Examiner's position represents hindsight reconstruction, or at best that it would have been "obvious to try" the claimed ratios. See generally In re Geiger, 815 F.2d 686 (Fed. Cir. 1987). It is impossible to support the present rejection in view of the Barge reference without the knowledge gleaned from the Appellants' disclosure.

It is difficult to reconcile this statement by the Examiner with the teaching set forth in the Newkirk reference, also cited by the Examiner. The Newkirk reference states that use of bicomponent fibers in percentages less than 70 percent compromise the performance of the resulting material. Thus, it is difficult to conclude that this is "mere optimization", as the person skilled in the art would have been aware of the teaching of Newkirk in this regard. The Examiner has failed to present any teaching that would suggest optimization would be appropriate or warranted. Without further teaching, it is submitted that the Examiner has engaged in hindsight using the teaching of the present invention to pick and choose among the statements in Barge to support the conclusion that the Appellant's invention is obvious. Without further teaching to this effect, it is submitted that the Examiner has failed to present a *prima facie* case of obviousness with regard to claims 1, 4-10, 12-15.

The Examiner has correctly indicated that Newkirk was not used in connection with Barge to reject claims 1, 4, 5, 7-10, and 12-15. However, the Newkirk reference is of record in the present matter and is indicative of the knowledge to be accorded to the skilled artisan and has been subsequently combined with the Barge reference to support an additional rejection of claim 6. It is submitted that the teaching of Newkirk is relevant in demonstrating the knowledge of the skilled artisan for the reasons outlined in the Brief.

Additionally, the Examiner would have the Board dismiss the significance of utilization of bicomponent fibers in the lower layer that have a melt point lower than the melt point of the monocomponent fibers of the upper layer. The Examiner opines that bicomponent fibers are typically used as binder fibers in the art of nonwoven fabrics because they comprise a material with a low melting point that melt and thermally bond all fibers together. No reference has been proffered that supports the melt point differential as defined in the claims. The Examiner's observations, though they are arguably correct, fail to support the obviousness rejection that the Examiner urges this Board to uphold.

The appellant contends that the Examiner has employed an improper argument that the Barge reference teaches the specific denier or fineness of the binder or bicomponent fibers in the lower layer. The Examiner states that the Barge reference teaches that the bulky layer comprises both binder fibers and matrix fibers (Barge, col. 6, lines 39-40). The Examiner

then states that the Barge reference also teaches that, when the bulky layer is designed for fluid acquisition, the fibers in that layer will have a fineness ranging from 5 to 12 dtx (Barge, col. 6, lines 60-64). From this, the Examiner indicates that there is no reason to presume that this fineness range is limited only to matrix fibers and not both matrix fibers and binder fibers. It is submitted that the Examiner reaches this conclusion only with the assistance of the above-identified specification.

A plain reading of column 6, lines 39-65 indicates that bulky layers can contain both binder fibers and matrix fibers. In certain cases one or more bulky layers may consist essentially of bicomponent fibers. "The matrix fibers in the bulky layer will typically have a fineness in the range of 1 to 12 dtx, the fineness of the matrix fibers in any given bulky layer being adapted to the desired liquid control characteristics." The Barge reference clearly states that "when a bulky layer includes bicomponent fibers, these fibers will typically have a similar fineness [to those in the support layer], i.e., in the range of 1 to 7 dtx, preferably 1.5 to 5 dtx, more preferably 1.7 to 3.3 dtx (Barge, col. 6, lines 35-38). Thus, the plain and fair reading of Barge is of a composite material having an upper or support layer in which fibers or filaments typically have a fineness in the range of 1 to 7 dtx, with 1.7 to 3.3 dtx being most preferred. The bicomponent fibers in the bulky layer *will typically have a similar fineness, i.e., in the range of 1 to 7 dtx, preferably 1.5 to 5 dtx, and more preferably 1.7 to 3.3 dtx.* In order to adopt the Examiner's presumption set forth in Paragraph 2 of Page 17, the Board will be required to disregard the plain teaching set forth in Barge at column 6, lines 35-39. It is the Examiner's contention that there is no reason to presume that bicomponent fibers cannot fall within the range of 5 to 12 dtx as is specified for the matrix fibers. It is respectfully submitted that the single reference submitted by the Examiner in support of this contention fails to justify the Examiner's presumption. It is submitted that it is unsupported in the fair reading of the Barge reference.

It is respectfully submitted that neither the Newkirk reference nor the Barge reference teach or place the skilled artisan in possession of the Applicants' invention as set forth in the claims. In view of the arguments previously presented in the Appeal Brief and the foregoing reasons in this reply, the Applicant requests that the Board reverse the rejections currently set forth by the Examiner.

Respectfully submitted,

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Dated: August 8, 2005

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